



Australian Systematic Botany Society NEWSLETTER

No. 61 DECEMBER 1989



Price: \$5.00

Registered by Australia Post
Publication No. NBH 8068

ISSN 1034-1218

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

Office Bearers

President

Dr J.G. West
Australian National
Herbarium, CSIRO
GPO Box 1600
CANBERRA ACT 2601

Tel (062) 46 5913
Fax (062) 47 3785

Vice President

Dr M.D. Crisp
Australian National
Botanic Gardens
GPO Box 1777
CANBERRA ACT 2601

Tel (062) 67 1821
Fax (062) 48 0682

Secretary

Dr B.J. Conn
National Herbarium
Mrs Macquaries Road
SYDNEY NSW 2000

Tel (02) 231 8131
Fax (02) 251 4403

Treasurer

Dr D.B. Foreman
National Herbarium
Birdwood Avenue
SOUTH YARRA
VIC 3141

Tel (03) 650 9424
Fax (03) 650 5917

Councillors

Dr G.P. Guymer
Queensland Herbarium
Meiers Road
INDOOROPILLY
QLD 4068

Tel (07) 377 9322
Fax (07) 870 3276

Dr J.M. Powell
National Herbarium
Mrs Macquaries Road
SYDNEY NSW 2000

Tel (02) 231 8139
Fax (02) 251 4403

Chapter Conveners

Adelaide: Mrs Robyn Barker
Armidale: Mr John Williams
Brisbane: Mr Laurie Jessup
Canberra: Dr Helen Hewson
Darwin: Mr Clyde Dunlop
Hobart: Dr Tony Orchard

Melbourne: Mr David Albrecht
Dr Trevor Whiffin
Perth: Dr Terry Macfarlane
Sydney: Prof Roger Carolin
Townsville: Dr Betsy Jackes

Affiliated Society: Papua New Guinea Botanical Society

ARTICLES

MY FIRST REVISION GAVE ME SO MUCH SATISFACTION

Music: Dirk Witte/arranged by Jan Schierbeck

Text: Pieter Baas

First Performance: by Diederik Komet, Pieter Baas & Dame Blanche
Leiden, 24 August 1989, at the banquet of the Flora Malesiana Symposium

1. When I was a very young taxonomist
I knew hardly all the knowledge that I missed
A few dogmas did the trick
to make all my species stick
until studied by the next revisionist.
Somewhat later I discovered with disgust
that my methods and philosophies went bust;
'Intuitions' they were called and my mind was
growing old
while the specimens went on collecting dust.
In the annual report
my publication list grew short;
my career seemed at an end
and my taxa second-hand.

Refrain A

My first revision gave me so much
satisfaction
with species circumscribed by constant
characters,
No apomorphic definition entered my
systematic vision
and the phylogeny I simply understood.

2. In phylogenetic plant taxonomy
I looked hard for syn- and autapomorphy;
Sister-groups defined with zeal
hardly ever looked for real
and the same applied to their dichotomy.
With cladistics came along philosophy;
and evolution driven thanks to entropy;
species share with you and me
their individuality
though the why and how I sadly failed to see.
Thus the crisis had not gone
and my misery went on

while the only remedy
seemed this happy memory:

Refrain A

My first revision gave me so much
satisfaction
with species circumscribed by constant
characters,
No apomorphic definition entered my
systematic vision
and the phylogeny I simply understood.

3. Now the lesson from this gloomy history:
please preserve your mental versatility.
Complete faultlessly and fast
Malesiana's flora task
as designed by van Steenis so cleverly.
't Does not matter to which School you do
belong
species do not seem to mind a bit as long
as you can tell them apart
and arrange them with your art
in a system, or a key, just for a start.
So come on, give us a hand;
bring the Flora to an end
let's beat Neotropica
Flora Malesiana!

Refrain B

Your next revision gives us so much
satisfaction
with species circumscribed by constant
characters
whatever systematic vision
enters your taxon definition
does not matter; we will always understand.

THE CASUARINACEAE : THE CLOSEST TAXON TO THE FAMILY

Yee H. Hwang

Research Division, Natural Science Museum

Taichung, Taiwan

Many botanists believe that the Betulaceae are the closest taxon to the Casuarinaceae. The present note aims to evaluate the reliability of this theory by examining various comments in the literature on this aspect.

Benson *et al.* (1906) suggested that there was a close affinity between *Casuarina* and *Carpinus* (Coryleae or Corylaceae, or Betulaceae). Hallier (1912) regarded *Casuarina* as a tribe of the Betulaceae. Bessey (1915) suggested that the Hamamelidaceae gave rise to casuarinas, with which Tippo (1938) agreed. Moseley (1948) suggested that on floral morphology the Casuarinaceae have been derived from Hamamelidaceae-like ancestors, but also added (1973) that the former's relationship may be close to the Betulaceae on non-vegetative features. Erdtman (1966) observed striking similarities between the pollen grains of casuarinas and the Betulaceae. Takhtajan (1969, 1980) derived casuarinas from the Hamamelidales, and was supported in this view by Lawrence (1972), Raven and Axelrod (1974), Corner (1976) and Dahlgren (1980). Melikian (1973) also reported that the seed anatomy supported the ancestral position of the Hamamelidaceae relative to the Casuarinaceae. Hutchinson (1973) suggested that casuarinas were derived from the Fagales, whereas Cronquist (1981) related casuarinas to the Betulaceae and Myricaceae, with which he said they share a common origin in or near the Hamamelidales.

There are thus two major schools for the origin of the Casuarinaceae : The Betulaceae hypothesis and the Hamamelidaceae hypothesis. The Betulaceae school emphasize the 'striking pollen similarity' between casuarinas and the Betulaceae. However, Hjelmquist (1948) in a study of the floral morphology and phylogeny of the Amentiferae concluded that *Casuarina* differs so much from the latter that it cannot be included within them. Similarly, Wodehouse (1959) remarked that:

The aspidate character is one that frequently appears in wind-pollinated groups of diverse origins; therefore it seems most likely that the degree to which it is expressed is a measure of the response of the species to that mode of pollination rather than an indication of relationship.'

In other words, this similarity is probably a result of convergence. Ueno (1963) in a TEM study of pollen found that the germ pores of the Betulaceae, Juglandaceae and Myricaceae can be stained with a 'papilla reaction' but not those of casuarinas. Accordingly he concluded that *Casuarina* is different from the others.

The Hamamelidaceae school bases its theory on floral and fruit morphology, and it appears that there have been no major objections to it in the literature. Indeed, the cones of *Liquidambar* are probably the only homologous structures to the cones of casuarinas, particularly those of the *Gymnostomeae*. Because of this, the Hamamelidaceae were preferred as the outgroup for casuarinas over the Betulaceae.

Nevertheless, the closest taxon to the Casuarinaceae does not readily fulfill all of the requirements for a 'good' outgroup. For example, Kuznetsov (1936) noted that casuarinas are isolated and not closely connected with any other family and Meeuse (1975) concluded from androecial morphology that the Hamamelidales cannot be directly ancestral to the Amentiferae. In addition, the origins of the unique vegetative features of the Casuarinaceae are completely obscure. For example, there are no parallels to the verticillate stem teeth of casuarinas. Because of the isolation of the Casuarinaceae vegetatively, the Hamamelidaceae should not be used as the outgroup of the former for cladistic purposes. Any attempts to interpret the phylogeny at or above family level involving casuarinas ideally should deal with the evolution of the vegetative features as well as the reproductive ones.

References

- Benson, M., Sanday, E. and Berridge, E. (1906). Contribution to the embryology of the Amentiferae, II. *Trans. Linn. Soc. London* (ser. 2) 7: 37-44.
- Bessey, C.E. (1915). The phylogenetic taxonomy of flowering plants. *Ann. Missouri Bot. Gard.* 2: 109-164.
- Corner, E.J.H. (1976). 'The Seeds of Dicotyledons', p. 91. (Cambridge).
- Cronquist, A. (1981). 'An Integrated System of Classification of Flowering Plants', pp. 151-230. (Columbia University, New York)
- Dahlgren, R.M.T. (1980). A revised system of classification of the angiosperms. *J. Linn. Soc. (Bot.)* 80: 91-124.
- Erdtman, G. (1966). 'Pollen Morphology and Plant Taxonomy - Angiosperms', pp. 103-4. (Hafner, New York & London).
- Hallier, H. (1912). L'origine et le systeme phyletique des angiosperms exposes a laide de leur arbre genealogique. *Arch. Neerl. Sci.* (ser. 3) 1: 146-234.
- Hjelmquist, H. (1948). Studies on the floral morphology and phylogeny of the Amentiferae. *Bot. Notiser Suppl.* 2: 1-171.
- Hutchinson, J. (1973). 'The Families of Flowering Plants', 3rd ed., p. 26. (Clarendon, Oxford).
- Kuznetsov, N.I. (1936). 'An Introduction to the Systematics of Flowering Plants'. (Leningrad).
- Lawrence, G.H.M. (1972). 'Taxonomy of Vascular Plants', pp. 442-3. (Macmillan, New York).
- Meeuse, A.D.J. (1975). Floral evolution in the Hamamelidae. *Acta Bot. Neerl.* 24: 155-91.
- Melikian, A.P. (1973). Seed coat types of Hamamelidaceae and allied families in relation to their systematics. *Bot. Zhurn. SSSR* 58: 350-9.
- Moseley, M.F. (1948). Comparative anatomy and phylogeny of the Casuarinaceae. *Bot. Gaz.* 110: 231-280.
- Moseley, M.F. (1973). Vegetative anatomy and morphology of Amentiferae. *Brittonia* 25: 356-370.
- Raven, P.H. and Axelrod, D.I. (1974). Angiosperm biogeography and past continental movements. *Ann. Missouri Bot. Gard.* 61: 539-573.
- Takhtajan, A. (1969). 'Flowering Plants - Origin and Dispersal', pp.95-107. (Oliver & Boyd, Edinburgh).
- Takhtajan, A. (1980). Outline of the classification of flowering plants (Magnoliophyta). *Bot. Rev.* 46: 225-359.
- Tippo, O. (1938). Comparative anatomy of the Moraceae and their presumed allies. *Bot. Gaz.* 100: 1-99.
- Ueno, J. (1963). On the fine structure of the pollen walls of angiospermae, III. *Casuarina*. *Grana Palynol.* 4: 189-194.
- Wodehouse, R.P. (1959). 'Pollen Grains', 2nd ed., pp. 282-283. (Hafner, New York). ☺

NARCISSUS NATURALISED IN SOUTH AUSTRALIA AND VICTORIA

Robert Anderson

31 Honeyton Street, Seaton SA 5023

Akin to Keighery (1989) I was also interested in the lack of *Narcissus* tabled in Hewson (1987). Paucity of collections may be due to under-collection, lack of interest or difficulty in naming the many cultivars and hybrids that persist.

Apart from the often confusing diversity, both from specific areas and in populations, many taxa, originally from Europe, fare better under Australian conditions.

The following *Narcissus* have been collected and identified: they are listed by section.

TAZETTAE DC.

Narcissus tazetta L. ssp. *tazetta*
N. tazetta ssp. *italicus*
N. tazetta ssp. *aureus*
N. papyraceus KerGawler ssp. *papyraceus*
N. papyraceus ssp. *polyanthos*
N. papyraceus ssp. *pannizzianus*
N. dubius(?) Gouan. Requires confirmation.

N. tazetta and *N. papyraceus* are very variable. Various hybrids and horticultural selections are also naturalised e.g. cv 'Grand Monarque', cv 'Joss Flower'. In Australian populations, *N. papyraceus* hybridizes with others in this

section, producing a number of intermediate forms.

NARCISSUS L.

N. poeticus L. ssp. *poeticus*

JONQUILLAE DC.

N. jonquilla L.

N. requienii M.J. Roemer

PSEUDONARCISSI DC.

N. pseudonarcissus L.

N. pseudonarcissus cv 'Telemeus Plenus'

N. minor L.

Numerous cultivars and selections of *N. pseudonarcissus* are also naturalised, especially in older cemeteries.

INTERSECTIONAL HYBRID

N. x incomparabilis Miller (*N. poeticus* x

pseudonarcissus)

Many *Narcissus* appear to have been planted for decorative or commemorative purposes and have since naturalised. The diversity and spread of *N. tazetta* in specific areas e.g. the gold-fields of central Victoria, may be due to its original significance and popularity as a graveside flower in Chinese and Islamic cultures.

All taxa are vouchered. Duplicates and a collection of living material are available to any person or institution.

References

- Hewson, H., (1987). 'Narcissus'. In 'Flora of Australia', Vol. 45: 379-380, (Austral. Govt. Publ. Serv., Canberra).
- Keighery, G. (1989). 'Tazetta' *Narcissus* naturalised in Western Australia. *Austral. Syst. Bot. Soc. Newsletter* 54: 13-14. ☺

INTERNATIONAL GEOSPHERE - BIOSPHERE PROGRAM

David Curtis

President, Australian Academy of Science
GPO Box 783, Canberra ACT 2601

In the 1990s, Australian scientists covering a diverse range of Scientific disciplines will take part in an international program called the International Geosphere-Biosphere Program (IGBP). This program is being conducted by the International Council of Scientific Unions (ICSU), a non-governmental scientific organization composed of 20 International Scientific Unions, 75 National Members, Associates and Observers and 26 Scientific Associates. Australian participation in the Program is being organized and co-ordinated by the Australian Academy of Science.

A better understanding of the Earth and its immediate environment is essential if we are to improve our ability to detect and to respond to warnings of significant global change. Although the world community of scientists has in the last 30 years successfully completed a wide range of international programs such as the International Hydrological Program, the International Lithosphere Program and the Global Atmospheric Research Program, these have

tended to concentrate on isolated components of the whole Earth system. The progress made in these areas plus technological advances in high-speed computers and spaceborne sensors allow, for the first time, a synthesis of information on a global scale, and the development of interactive models.

The IGBP will be the most ambitious, the most wide-ranging, and in its impacts on our understanding of the future possibilities for mankind, the most important project that ICSU has ever undertaken. With the support of the Commonwealth Department of the Arts, Sport, the Environment, Tourism and Territories, the Academy has been able to proceed with the planning phase for Australia's participation in this very important Program.

When the planning phase has been completed, the Academy will be seeking co-operation and support from Federal and State governments, public and private institutions, industry and the community at large to launch and sustain a major inter-disciplinary program of

Australian scientific research on human-induced global change.

Our aim is to acquaint as many people as possible with the aims and objectives of the Program and with the planning for Australia's contribution to it. We would welcome any enquiries from you concerning participation and development of the Australian national contribution to the IGBP.

Australian Program

Planning Phase for the IGBP (1989-1990)

The Commonwealth Department of the Arts, Sport, the Environment, Tourism and Territories has agreed to support the planning phase for Australian participation in the IGBP and has provided funds to the Academy to enable planning workshops or science definition meetings to be conducted. The National Committee for IGBP has recommended that Workshops be convened on the following topics during the next eighteen months preceding the commencement of the IGBP proper.

- | | |
|---------------|-----------------------------|
| WORKSHOP 1 | Plant perspective on global |
| (July 1989) | change |
| WORKSHOP 2 | Non-modelling terrestrial |
| (August 1989) | ecosystem research |
| | requirements |

- | | |
|--------------|-----------------------------|
| WORKSHOP 3 | Observatories/Networks/ |
| (Late 1990) | Research Centres |
| WORKSHOP 4 | Hydrology |
| (Mid 1990) | |
| WORKSHOP 5 | Joint Global Ocean Flux |
| (Feb. 1990 | Study |
| ANZAAS) | |
| WORKSHOP 6 | World Ocean Circulation |
| (Feb. 1990 | Experiment |
| ANZAAS) | |
| WORKSHOP 7 | Extreme Events |
| (May 1990) | |
| WORKSHOP 8 | Land Use/Remote Sensing |
| (March 1990) | |
| WORKSHOP 9 | Paleo-Environmental Change |
| (Mid 1990) | |
| WORKSHOP 10 | Antarctica |
| (Feb. 1990 | |
| ANZAAS) | |
| WORKSHOP 11 | International Collaboration |
| (Late 1990) | |
| WORKSHOP 12 | Sea Level Change and the |
| (Oct. 1989) | Australian Coastline |
| WORKSHOP 13 | Mathematical Modelling of |
| (April 1990) | Global Change |
| WORKSHOP 14 | Utilization of renewable |
| (Late 1990) | biological resources and |
| | global change |

☺

PACHYSTOMA PUBESCENS BLUME (ORCHIDACEAE) REDISCOVERED IN THE NORTHERN TERRITORY.

Glenn M. Wightman

Conservation Commission of the Northern Territory
PO Box 496, Palmerston, NT 0831

Pachystoma pubescens Blume (synonym *P. holtzei* (F. Muell.) F. Muell.) was originally collected by Maurice Holtze 'near Darwin' in 1889 (*M. Holtze* 862; near Darwin; 15.vi.1889; MEL). It was the only species listed as extinct in the Northern Territory in the latest ROTAP listing (Briggs, J.D. and Leigh, J.H., 'Rare or Threatened Australian Plants' ANPWS Special Publication 14 [1989]).

Pachystoma pubescens has been recollected at a locality 25km south east of Darwin almost

100 years after the original Northern Territory collection. (*G. Wightman* 4538 and *C. Dunlop*; Virginia area, 25km SE Darwin 12° 33'S; 131° 01'E. 31.viii.1988; DNA).

The highly camouflaged pinkish flowers and grass-like leaves make this species difficult to locate in the field. This in conjunction with the unusual dry season flowering period (June to August flower records) may partially explain the long period between collections of *P. pubescens* in the Northern Territory. ☺

THREE CHEERS FOR RU HOOGLAND IN PARIS

D.E. Symon

After the van Steenis Symposium in Leiden (Aug. 1989) I went on to Paris to work in the Herbarium. Ru was extremely helpful. He produced bundles of unidentified specimens from various floors, found literature and organised meals in the Museum's Canteen. In addition, he spent days of his own time putting specimens into folders and in re-organising collections. It certainly made my stay more profitable and pleasant.

The collections at P are very rich in earlier material with numerous unsegregated types as

the collection is seriously under-curated in areas not of current interest. Above the tall grey metal stacks may be bundles of specimens only identified to family but even now containing type material e.g. Seeman (Fl. Vitiensis). As you open these repellant metal pigeon holes one expects a dried up, bearded, long dead botanist to fall out, never missed for all those years.

Unless your visit is very limited in its objective allow more time than you might expect for the riches of P. ☺

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INC - BUSINESS

SUBSCRIPTIONS FOR 1990

Subscriptions for 1990 are due on 1st January 1990. The rate has not changed from 1989 i.e. \$20.00, but there is no longer a discount for 'early' payment. Fulltime student rate is \$12.00. Payment must be made in Australian dollars. Cheques should be made out to 'ASBS Inc.'. Please remit to the Treasurer, Don Foreman.

The period of grace for overdue subscriptions has been greatly reduced. Please read 'Newsletter' 60: 37 for details. ☺

the Pacific.

Enclosed in this Newsletter is the First Announcement for the Willi Hennig Meeting. This contains a card on which you can indicate your interest in either of the meetings. So, if you wish to attend and/or to contribute a paper to the ASBS symposium INDO-PACIFIC BIOGEOGRAPHY: AT THE CROSSROADS, then please indicate on the enclosed card or write directly to Murray Henwood or Judy West indicating your interest. We anticipate the registration fee will be c. \$50.00, with a concession rate for students.

ASBS MEETING 1990

Indo-Pacific Biogeography: At the Crossroads

There will be a two-day symposium in Canberra on 29th & 30th August, 1990, following the Ninth Willi Hennig Meeting.

The theme of the symposium will centre on evolution and biogeography of the flora and fauna of tropical Australia, South East Asia and

Dr M J Henwood
Taxonomy Laboratory
Research School of Biological Sciences
Australian National University
GPO Box 475
Canberra ACT 2601

Dr J G West
Australian National Herbarium
Division of Plant Industry
CSIRO
GPO Box 1600
Canberra ACT 2601 ☺

PERSONAL NEWS

ROGER CAROLIN - A SHORT BIOGRAPHY AND APPRECIATION ON HIS RETIREMENT

David Morrison
Dept. of Applied Biology,
University of Technology, Sydney
PO Box 123, Broadway, NSW 2007



Biography

Roger Charles Carolin was born on October 15, 1929. This was the month of the collapse of the New York Stock Exchange that precipitated the most widespread economic crisis of modern times - usually referred to as Black October. This is typical of Roger Carolin's life - some people have their birth marked by great earthquakes, others are commemorated by massive floods, while Roger chooses a more prosaic event. Still, those of Irish ancestry have

always thought that money was pretty important.

Although Roger was born in London, his father, Horace George Carolin, was born in Dublin. He came from the Protestant branch of the Carolan sept of the MacDermots, who originally came from around Iniskillen in Ulster. They were, however, driven southwards into county Monaghan by the Stuart transplantations in the 17th century, and they later inter-married with both transplanted and Anglo-Irish families. It is on this side of the family that Roger claims a relationship with Tuclogh Carolan, the last Irish

bard - this probably explains Roger's distinctive lecturing style.

Roger's mother, Kate Deal, was born in London. Her family came from Southwold in Suffolk, being fishermen and coastguards in East Anglia and along the east coast of Scotland. It is on this side of the family that Roger claims a relationship with Pocahontas, thus staking a claim to considerable influence on North American history as well as that of Great Britain and Australia.

Roger does not, however, make at all clear which side of the family is responsible for the presence of Oliver Cromwell in his ancestry. This is also typical of Roger - the English are normally proud to find royalty in their family tree, but Roger finds only rabble-rousers. I wouldn't be surprised to find Guy Fawkes in there as well.

Roger's formative years were spent in Kingston-upon-Thames in south-west London, with the latter part of his youth occupied at Raynes Park County Grammar School, at Raynes Park in Surrey. It was during these early years that his mother's illegal incursions into the garden of nearby Hampton Court Palace, to steal flowers, led Roger to develop an interest in the botanical side of the world, as well as fostering a considerable attraction for buccaneering. Perhaps Henry VIII's famous sunken pond garden and the formal gardens of William III had their influence on Roger as well. In any event, the Royal Botanic Gardens at Kew, some ten kilometres away, were apparently not spared these botanical escapades either, something that must have caused Roger to smile quietly to himself when he returned there under more legitimate circumstances some years later.

After leaving school, he spent part of 1947 as a Scientific Assistant at the British Museum (Natural History), helping Bill Phillipson sort his recent collections from the Lost World Plateau in Venezuela. He then spent from 1947 to 1949 doing his National Service in the Royal Army Medical Corps, as a Pathology Laboratory Assistant and a Nursing Orderly.

Having acquired a taste for science, Roger then spent 1949 to 1952 at the Imperial College of Science and Technology, of the University of London, emerging with a B.Sc. (Special) with Honours 2nd Class Division 1. The 'Special' refers to the fact that most of the subjects were taught by botanists, not to any special ability on Roger's part.

Having finally zeroed in on taxonomy as his field of study, from 1952 to 1955 Roger was a Research Student on a Department of Scientific and Industrial Research grant at the Royal Botanic Gardens, Kew. He was undertaking the work for a Ph.D. degree (supervised by W.B. Turrill), which was to be submitted to the University of London. Having run out of grant money and completed most of the work for his thesis, he spent a short time as a Science Teacher at the Duff-Miller Private College, London, before finally being offered a job at the University of Sydney as a Lecturer (replacing Noel Beadle, who had departed to become Professor of Botany at the University of England) and the Curator of the John Ray Herbarium (replacing Obed Evans, who had retired).

He accepted this job, and made the arduous journey downunder in September 1955, travelling on the *Orion*, an exciting voyage in the presence of a vast number of emigrating Irish and Scots. This transmigration, however, created a problem for Roger - while he was technically able to submit his Ph.D. thesis from overseas, he was still required by London University to face his examiners for the traditional oral examination. Unfortunately, he had no way of travelling the 20,000 km necessary to get back to England. So, the University could no longer consider his candidature for the degree.

Undeterred, Roger simply enrolled in a Ph.D. degree at the University of Sydney, started a completely new project (with Robert Crocker as his supervisor), and did it all again. He duly submitted his thesis in 1961 and was awarded his degree.

Roger has stayed in Australia ever since, becoming an Australian citizen in 1971. He remained at Sydney University for thirty-four years, progressing to Associate Professor in 1973. He never showed any great interest in becoming a full Professor, or even the Director of a larger herbarium - he preferred the life of an academic scientist to that of an administrator.

Roger's contribution to Australian biology, of course, extends beyond his teaching and research duties. He has been active in the Linnean Society of New South Wales since arriving from London, including being President in 1968 and a member of the Council in 1963 and 1970. He was a founder member of the Australian Systematic Botany Society, and its

President from 1976 to 1979 and Vice-President from 1979 to 1981, as well as being the Convener of the Sydney Chapter for the past few years. He has also been a member of the Linnean Society of London, and the International Association for Plant Taxonomy; and he was involved with the editorial committee for the *'Flora of Central Australia'*, and also for the *'Flora of Australia'*.

Roger has also been on many government and other advisory committees, including the Fauna Protection Panel of New South Wales, the Committee to advise the Rt Hon. Tom Lewis (Minister for Lands) on National Parks and Nature Reserves (of which he was chairman), the Myall Lakes National Park Advisory Committee (of which he was also chairman), the Scientific Advisory Committee of the National Parks and Wildlife Service of NSW (of which he was also chairman), the Nature Conservation Council of New South Wales, the National Trust of Australia (NSW) Landscape Committee, the National Trust of Australia (NSW) Bush Management Committee, and the National Heritage Assessment Panel for Natural Environment in New South Wales.

Having reached the magic age of sixty in 1989, Roger took early retirement. However, he remains an Honorary Associate of the School of Biological Sciences at the University of Sydney, as well as an Honorary Research Associate of the National Herbarium of NSW at the Royal Botanic Gardens, Sydney. He now intends to spend his time the way he wants, rather than the way someone else thinks he should.

Appreciation

When the University of Sydney decided, in 1955, to appoint a new Curator for the John Ray Herbarium, they sought (for the first time) a university-trained taxonomist. They were presumably expecting to get one of the usual sort of taxonomist of the time:- someone with his plant press in one hand and his butterfly net in the other, who could prance gaily through the bush on 'scientific' expeditions with his students. Well, they got more than they bargained for - they got someone who could prance all right, and they got someone who thought he was a taxonomist, but they got someone who thought that taxonomy should be a science as well.

At that time, such an attitude was almost

unheard of. I'm not sure that I can convey to you, who almost all post-date Roger Carolin (if you'll excuse the expression), what a change it made to the School of Botany (as it then was) and to the way taxonomy was perceived and taught. Taxonomy went rapidly from the traditional 'stamp collecting' to something that was easily recognisable to anyone as science. Even to the other faculties within the University it was obvious that something pretty dramatic had happened - and I'm talking here about faculties like Agriculture, who do not necessarily want to be considered as scientists.

Moreover, I want particularly to emphasise that the effects of this change in attitude did not stop at the University gates, because Roger was also a teacher - he was responsible for the intellectual development of those people who were going to go out into the so-called 'real world' and try to actually do taxonomy in a professional sense.

As most of you realise, plant taxonomy has traditionally been learned on the job - someone puts you down next to a microscope and a pile of dead plants and says 'do it', and you're supposed to work out for yourself what 'it' actually is. This is no way to become a scientist. So, the concept of someone teaching taxonomists to be scientists rather than just to think that they were, and then letting them loose on the world, is really quite amazing.

The effect that Roger's research students have had on plant systematics in Australia is almost incalculable. These students are now heads of various Herbaria around Australia, they're divisional heads with CSIRO, they're senior botanists, and botanists, and so on; and the one thing that they have in common is a conscious recognition of the debt they owe to Roger. They haven't just gone out and forgotten the scientific attitudes that Roger gave them. So, these people have basically set about changing plant taxonomy in Australia, whether they consciously intended to do so or not; and by and large, these people have done a pretty good job - if nothing else, plant taxonomy in Australia will never be the same again.

Now, I should emphasise that I don't think Roger's effect on his students has in any way been particularly conscious on his part. Roger doesn't stand there in a pulpit declaiming the gospel according to Carolin; it's a much more subtle approach - almost insidious (you might

say). Roger achieves his effect by simply being a role model - essentially he gives you the impression that he can conceive of no other attitude to taxonomy than as a science, and you end up wondering how you ever saw it any other way either. That's a much more profound way of influencing people than trying to intellectually convince them - you let them work it out for themselves and it's something that they'll never forget; and, as I noted a few lines ago, there are a lot of people out there who have never forgotten.

Roger's more direct effect on Australian plant taxonomy has, of course, been through his own publications. At the end of this note there is a list of all of his publications to date, and it is conspicuous for the almost complete absence of the style of taxonomic paper that generally hides under the name 'Notes on . . . ' and simply describes one or two new species. Roger's papers have tended to be quite substantial - either revisions of entire genera, reviews of families, or incredibly detailed comparative studies of plant anatomy or morphology. It is, of course, these latter papers that are the foundation stone of Roger's scientific approach to taxonomy. If we accept that systematics is an analysis of the relationships between taxa, then it is these comparative studies that provide the evidence for testing hypotheses about these relationships.

Roger's involvement with comparative anatomy and morphology goes back to his Ph.D. thesis, which was an analysis of the floral morphology of those families that John Hutchinson had included in his original (1926) concept of the Order Campanulales, the object being 'that their relationships may be better understood'. This was no minor undertaking, as it necessitated a detailed study of the Campanulaceae (including the Lobeliaceae, Pentaphragmataceae, and Sphenocleaceae), the Goodeniaceae (including the Brunoniaceae), and the Stylidiaceae (including the Donatiaceae), as well as a consideration of the Asteraceae and Saxifragaceae. Roger claims to have been attracted to the group because of the apparently close relationship between the near-endemic Goodeniaceae and Stylidiaceae with the essentially extra-Australian Campanulaceae, and he was particularly interested in the historical derivation of the endemic Australian flora. However, it seems more likely that the group

appealed to him because of the associations of the botanical buccaneer William Dampier with the Goodeniaceae (he collected the first specimens sent back to Europe and has a genus in the family named after him).

Roger has also been notable for having incorporated new techniques into his research, particularly in the area of genetics. That Roger did this should not surprise anyone - his active pursuit of any new techniques that would provide additional data for testing hypotheses of taxonomic relationship has simply been an inevitable by-product of his own attitude to taxonomy - that it's a science not an art, and you need to get as much evidence from as many different sources as you can. Indeed, Roger's original Ph.D. project (at Kew) was an extensive cytological and hybridization study of the species of *Dianthus* (Caryophyllaceae), indicating his early belief that anatomy and morphology are only the beginning of the search for taxonomic characters.

In a similar vein, Roger's active pursuit of techniques for analysis of relationships has led him to be a pioneer in this field as well. For example, Roger was the first taxonomist (of any persuasion) in Australia to publish a cladistic analysis of a taxonomic group (the Goodeniaceae); and if there's one thing that cladistics forces you to do, it's to be a scientist - you have to clearly state your assumptions, your conclusions, and your evidence, all in a way that allows other scientists to objectively assess them. That Roger should be first with such a technique is simply obvious if you know Roger well. Roger was also, incidentally, one of the first taxonomists in Australia to adopt computer technology to make data analysis easier, teaching himself computer programming in the process.

Roger's botanical interests are reflected in his publications. After his early work on *Dianthus* and the Campanulales, he has concentrated on the Geraniaceae, the Goodeniaceae, and the Portulacaceae. Each of these families was chosen because of their ability to contribute to an understanding of the evolutionary relationships of the Australian flora.

His work on the Geraniaceae dates from Roger's early days in Australia, although he has done little on it since the end of the 1960s. He was out at Butlers Peak Range near Fowler's Gap one day in June 1956 with Noel Beadle,

while Noel was doing one of his heroic transects through western NSW. There were two species of *Erodium* in the area, neither of which had a name. So, Noel suggested that this would be a nice small group for Roger to work on. Naturally, the work turned out to be much larger than expected. It was intended to focus mainly on a revision of the few Australian species of this cosmopolitan family, but the rather more numerous introduced species had to be included for comparative purposes. In spite of the fact that Roger ended up describing a plant that had been introduced from Iran as a new Australian endemic species, he has been allowed to contribute treatments of this family to several floras (e.g. '*Flora Malesiana*', '*Flora of South Australia*', '*Flora of New South Wales*').

His work on the Goodeniaceae has been a revision of the entire family, a work that dates from his Ph.D. and which is now almost complete (although much of the work was done in the 1970s). The work has involved studies of comparative anatomy and morphology, as well as nomenclatural work and the description of new taxa. He has paid particular attention to the systematic arrangement, both within and between the genera, refining his ideas several times. He has worked methodically through each of the genera of this large family (c. 400 spp.) over the past thirty years, farming out only *Dampiera* (to Tahir Rajput), *Lechenaultia* and *Anthotium* (to myself), and the cytology (to Jim Peacock). Hopefully, Volume 35 of the '*Flora of Australia*' will be a fitting testament to the care and insight that Roger has brought to this work.

The work on the Portulacaceae is much more recent, being essentially a product of the 1980s. It was originally conceived with Judy West as a study of *Calandrinia*, which was thought to be distributed in South Africa, Australia, and South America, and was thus an ideal tool for a study of the historical biogeography of the southern continents. However, on closer inspection (as so often happens when someone finally takes a world view rather than a parochial one) the situation turned out to be much more complex, and so a review of the whole family at the generic level became necessary.

Roger's other major contribution to Australian systematics has, of course, been his involvement with the '*Flora of the Sydney Region*', now in its third (and probably final) edition. Pending the new '*Flora of New South Wales*', this has been

the sole comprehensive reference work since the turn of the century for Australia's most populous area, and as such is probably the most familiar taxonomic work to the general public in Australia. It is, perhaps, fitting that Roger should play a major role in the production of this book with his two immediate predecessors at Sydney University, and that through the various editions his role should markedly increase.

While discussing publications, it occurs to me that I wouldn't want anyone to think from what I've said so far that Roger has been the Great White Hope of Australian systematics, pristine in all ways - this man has warts. It is in the realm of publications that one of these becomes really obvious - the substance of Roger's papers is always good, but the presentation often leaves something to be desired. Those of you who have ever had to co-author a paper with Roger will know what I mean. I remember Peter Weston coming up to me one day and saying: 'The man's unbelievable! He wants us to send this paper off, and it hasn't even got an abstract yet! Doesn't he notice these things?!'. Roger's attitude was simply to shrug his shoulders and say 'Well, write one then', almost as if the journal editor should do it for him. Anyone who has ever had to referee one of Roger's papers will also know what I mean. I know for a fact that more than once Roger has had manuscripts returned with polite requests for him to get his act together. Journal editors around Australia may also recognize the truth of what I've just said.

There is no way that Roger Carolin could be called a pillar of traditional plant taxonomy. He has always believed that systematics must progress, as all sciences do, and that therefore individual taxonomists must progress as well. There have been many taxonomists who have simply spent their careers getting better at the things they were taught when they were younger. Roger, on the other hand, has been conspicuous for his determination to adopt any new idea or technique that might improve his ability to be a scientist. Roger once made a comment to me that 'if you stop being willing to accept new ideas then, as a scientist, you're dead'. This, I think, basically sums up Roger as a taxonomist - and I don't think he's dead yet (in spite of his claim during his last public talk at Sydney University that 'intuition does still play a role in taxonomy'). It is, I think, this aspect of

Roger's career that will, in the final analysis, be his lasting contribution to Australian plant systematics, both through his own work and through that of his students.

Bibliography

- Carolin, R.C. (1954) Stomatal size, density and morphology in the genus *Dianthus*. *Kew Bull.* 9: 251-258.
- Carolin, R.C. (1957) Cytological and hybridization studies in the genus *Dianthus*. *New Phytol.* 56: 81-97.
- Carolin, R.C. (1958) The species of the genus *Erodium* L'Her. endemic to Australia. *Proc. Linn. Soc. New South Wales* 83: 92-100.
- Carolin, R.C. (1959) Floral structure and anatomy in the family Goodeniaceae Dumort. *Proc. Linn. Soc. New South Wales* 84: 242-255.
- Carolin, R.C. (1960a) Floral structure and anatomy in the family Stylidiaceae Swartz. *Proc. Linn. Soc. New South Wales* 85: 189-196.
- Carolin, R.C. (1960b) The structures involved in the presentation of pollen to visiting insects in the order Campanales. *Proc. Linn. Soc. New South Wales* 85: 197-207.
- Carolin, R.C. (1960c) Colourful plant life on sandstone and shale. *Aust. Museum Magazine* Dec. 258-261.
- Carolin, R.C. (1961a) The genus *Pelargonium* L'Her. ex Ait. in Australia. *Proc. Linn. Soc. New South Wales* 86: 280-294.
- Carolin, R.C. (1961b) Pollination of the Proteaceae. *Aust. Museum Magazine* Sep. 371-374.
- Beadle, N.C.W., Evans, O.D. and Carolin, R.C. (1963) 'Handbook of the Vascular Plants of the Sydney District and Blue Mountains'. (Brown Prior Anderson, Armidale).
- Carolin, R.C. (1963a) Geraniaceae. In 'Flora Malesiana' (ed. C.G.G.J. van Steenis) I, 6: 445-449.
- Carolin, R.C. (1963b) J.R. and J.G.A. Forster and their collections. *Proc. Linn. Soc. New South Wales* 88: 108-111.
- Carolin, R.C. (1963c) Notes on the genus *Erodium* L'Her. in Australia. *Proc. Linn. Soc. New South Wales* 88: 313-319.
- Carolin, R.C. (1964a) Taxonomic and nomenclatural notes on the genus *Wahlenbergia* in Australia. *Proc. Linn. Soc. New South Wales* 89: 235-240.
- Carolin, R.C. (1964b) The genus *Geranium* L. in the south western Pacific area. *Proc. Linn. Soc. New South Wales* 89: 326-361.
- Carolin, R.C. (1966) Seeds and fruit of the Goodeniaceae. *Proc. Linn. Soc. New South Wales* 91: 58-83.
- Carolin, R.C. (1967a) Geraniaceae. *Contr. Nat. Herb. New South Wales*, Flora ser. 102: 1-23.
- Carolin, R.C. (1967b) The concept of the inflorescence in the order Campanulales. *Proc. Linn. Soc. New South Wales* 92: 7-26.
- Carolin, R.C. (1967c) The genus *Velleia* Sm. *Proc. Linn. Soc. New South Wales* 92: 27-57.
- Carolin, R.C. (1967d) *Cooperookia*: a new genus of Goodeniaceae. *Proc. Linn. Soc. New South Wales* 92: 209-216.
- Carolin, R.C. (1969) A new species of *Erodium* L'Her. from Australia. *Proc. Linn. Soc. New South Wales* 94: 212-213.
- Carolin, R.C. (1970) The trichomes of the Goodeniaceae. *Proc. Linn. Soc. New South Wales* 96: 8-22.
- Carolin, R.C. (1971) Myall Lakes - an ancient and modern monument. *Proc. Ecol. Soc. Aust.* 5: 123-129.
- Beadle, N.C.W., Evans, O.D. and Carolin, R.C. (1972) 'Flora of the Sydney Region'. Second edn. (Reed, Sydney) (reprinted 1976).
- Carolin, R.C., Jacobs, S.W.L. and Vesk, M. (1973) The structure of the cells of the mesophyll and parenchymatous bundle sheath of the Gramineae. *Bot. J. Linn. Soc.* 66: 259-275.
- Siddiqi, M.Y., Carolin, R.C. and Anderson, D.J. (1973) Studies in the ecology of coastal heath in New South Wales. I. Vegetation structure. *Proc. Linn. Soc. New South Wales* 97: 211-224.
- Carolin, R.C. (1974) *Nigromnia*, a new Genus of Goodeniaceae. *Nuytsia* 1: 292-293.
- Carolin, R.C., Jacobs, S.W.L. and Vesk, M. (1975) Leaf structure in Chenopodiaceae. *Bot. Jahrb. Syst.* 95: 226-255.
- Rotherham, E.R., Blaxell, D.F., Briggs, B.G. and Carolin, R.C. (1975) 'Flowers and Plants of New South Wales and Southern Queensland'. (Reed, Sydney) (reprinted 1982).
- Siddiqi, M.Y., and Carolin, R.C. (1976) Studies in the ecology of coastal heath in New South Wales. II. The effects of water supply and phosphorus uptake on the growth of *Banksia serratifolia*, *B. aspleniifolia* and *B. ericifolia*.

CONSTITUTION AND RULES OF THE AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

CONSTITUTION

1. NAME:

- a) The organisation shall be called the *Australian Systematic Botany Society Incorporated* (hereinafter the 'Society').

2. AIM:

- a) The aim of the Society is to promote the study of plant systematics.

3. MEMBERSHIP:

- a) Membership shall be open to anyone interested in plant systematics.

4. CONDUCT OF THE AFFAIRS OF THE SOCIETY:

- a) The affairs of the Society shall be managed by a Council of six (6) members, consisting of a President, a Vice-President, a Secretary, a Treasurer, and two other Councillors, (hereinafter the 'Council'). No member can simultaneously hold more than one position on Council.
- b) A term of office on Council shall be the period between two successive General Meetings.
- c) The President and Vice-President shall not serve more than two consecutive full terms of office as such.
- d) No member of Council shall serve more than four consecutive full terms of office.
- e) Nominations will be called for the Council offices and members may submit nominations for these offices.

- f) Voting shall be restricted to members of the Society. Only votes from financial members can be valid.

- g) The Council shall have power to appoint Committees. Such committees are responsible to Council.

- h) The Council shall appoint Editor(s) for any Society publication. Such Editor(s) shall not be part of the membership of Council unless independently elected to one of the designated positions on Council by members.

- i) There shall be an annual subscription payable by all members. The amount of the subscription shall be subject to determination at each General Meeting.

- j) Income of the Society shall be used solely for promoting the interests of the Society.

- k) The Council shall appoint Auditor(s) to audit the Society accounts. Such Auditor(s) cannot be part of membership of the Society.

- l) A General Meeting of the Society will be held at least once every two years.

- m) Any change of Constitution or Rules shall be determined by at least 65% majority affirmative vote. Any group of at least four (4) members may propose such changes.

5. INCORPORATION:

- a) The Council shall appoint a Public Officer for the purpose of Society incorporation, as required by the Australian Capital Territory Associations Incorporation Ordinance 1953 with amendments (hereinafter the 'Incorporation Ordinance').

b) The Society Public Officer shall

1. be a financial member of the Society;
2. not be part of the membership of Council unless independently elected to one of the designated positions on Council by members;
3. be permanently resident in the Australian Capital Territory; and
4. be responsible to Council for meeting relevant requirements of the Society Public Officer under the Incorporation Ordinance.

c) The Council shall appoint a replacement within 14 days should the office of Public Officer become vacant. The office of Public Officer becomes vacant if the person holding that office

1. dies;
2. becomes bankrupt, applies to take the benefit of a law for the relief of bankrupt or insolvent debtors or compounds with his creditors;
3. resigns his office in writing under his hand addressed to the Council;
4. becomes of unsound mind;
5. ceases to be resident in the Australian Capital Territory; or
6. has his appointment rescinded by the Council.

d) The Council shall be bound to meet all requirements not otherwise mentioned, of the current Incorporation Ordinance. For this purpose, the current Incorporation Ordinance is to be considered an annexure.

6. COMMON SEAL:

- a) The Common Seal of the Society shall not be affixed to any instrument except by the authority of the Council and in the presence of the President or Vice-President and the Secretary or such other Officer as Council may appoint for the purpose; and the President or Vice-President, as the case may be, and the Secretary or other Officer shall sign every instrument to which the Common Seal of the Society is so affixed in their presence.

RULES

1. MEMBERSHIP:

- a) Any person wishing to become a member of the Society should forward the annual subscription to the Treasurer. Annual subscriptions are due on 1st January of each year.
- b) Any person who is two (2) years in arrears with subscriptions ceases to be a member, but will be eligible for re-admission to membership on payment of these arrears.
- c) Any member wishing to resign may do so by sending written notice of this intention to the Secretary with all sums due to the Society.
- d) Any membership can be terminated by majority affirmative vote of at least four (4) Council members provided the member concerned has the right to make a statement in writing to Council prior to the vote being taken.
- e) Student membership with reduced subscription rate is available to bona fide full-time students of secondary or tertiary educational institutions.
 1. Student subscription rate shall be not less than 50% of regular membership rate.
 2. Rates of subscription for Student members shall be determined by Council immediately following each General Meeting.
 3. Student members shall have the same rights and privileges as Regular members.

2. COUNCIL:

- a) The Council shall meet as convened by the President. Any three (3) Council members may require the President to convene a Council meeting. A quorum for such meetings shall be four (4) members present or otherwise expressing their views.

- b) Each member of Council shall have a single vote. The person chairing any Council meeting may have a casting (second) vote.
- c) In the event of a vacancy occurring on Council, the Council is empowered to fill the vacancy.
- d) The Council is empowered to rescind any appointments to Society positions made by the current or previous Councils.

3. ELECTION OF COUNCIL:

- a) The Secretary shall call for nominations for membership of Council at least four (4) months before each General Meeting. Each nomination must be proposed by at least two (2) members. Any nomination, accompanied by the nominee's acceptance, must be in the hands of the Secretary at least eight (8) weeks before the date of the General Meeting.
- b) Where there are more nominees for a position than the position requires, the Secretary shall distribute ballot papers to all members at least six (6) weeks before each General Meeting, together with an address to which they are to be returned and a closing date for the ballot.
- c) A nominee requires a simple majority of votes received to be elected to the relevant position on Council.
- d) The result of the ballot for members of the Council shall be declared at each General Meeting.
- e) 1. A re-election will be called by the Secretary for any Council position if a simple majority of received votes is not obtained by any nominated member. A call for nominations for any undecided Council position will be no later than four (4) weeks after the General Meeting. Each nominee must be proposed by at least two (2) financial members. The nomination, accompanied by the nominee's acceptance, must be in the hands of the Secretary no later than eight (8) weeks after the General Meeting.

2. The Secretary shall distribute ballot papers to all financial members no later than ten (10) weeks after the General Meeting, together with an address to which they are to be returned no later than twelve (12) weeks after the General Meeting.

3. The result of the ballot for the re-election(s) shall be declared as soon as practicable thereafter.

4. FINANCE:

- a) The financial year of the Society shall be from January 1st to December 31st.
- b) Auditing of Accounts
 - 1. The Accounts of the Society shall be prepared by the Treasurer and shall be submitted to appointed Auditor(s) each year.
 - 2. The Council, through the Treasurer, shall cause to be prepared each year, a balance-sheet setting out the assets and liabilities of the Society.
 - 3. The Council, through the Public Officer, shall, within one month of preparation of a balance-sheet, file a copy, duly certified as correct by the appointed Auditor(s), with the Australian Capital Territory Corporate Affairs Commission (hereinafter the 'Corporate Affairs Commission').
 - 4. Audited accounts shall be presented at each General Meeting.
- c) Withdrawal forms and cheques shall be signed by the Treasurer and countersigned by another member of Council.

5. GENERAL MEETING:

- a) Notice of each General Meeting shall be circulated to all members at least four (4) months in advance.
- b) Any member wishing to place any item on the agenda shall notify the Secretary in writing at least two (2) weeks before the date of the General Meeting.

- c) A copy of the agenda for a General Meeting shall be available for membership perusal at least one (1) day prior to that meeting.
- d) A quorum for a General Meeting shall be thirteen (13) members including a minimum of four (4) incumbent Councillors or Councillors-elect.

6. PUBLICATION:

- a) The '*Australian Systematic Botany Society Newsletter*' is the official publication of the Society which is regularly and automatically distributed to all financial members.
- b) The Society may issue such other publications as will further its aim.

7. ALTERATIONS TO THE CONSTITUTION OR RULES:

- a) 1. Proposed alterations to the Society Constitution or Rules must be submitted in writing to the Secretary at least four (4) months prior to a General Meeting and signed by at least four (4) financial members.
- 2. Such proposals must be communicated to all members prior to the General Meeting.
- 3. Such proposals shall be placed on the agenda of the General Meeting.
- 4. Such proposals with any modification from the General Meeting, unless withdrawn, together with appropriate voting papers shall be sent to all members not more than four (4) weeks after the General Meeting.
- 5. Voting papers shall be returned to the Secretary by a specified date.
- 6. An alteration shall require approval of at least 65% of valid votes, providing no fewer than 13 valid votes are cast.
- 7. An alteration shall take effect immediately upon approval.

- b) The Council, through the Public Officer, shall, within one month of any constitutional alteration of the Constitution or Rules of the Society, file with the Corporate Affairs Commission notice of such alteration, a copy of any instrument evidencing such alteration and a statutory declaration made by the Public Officer declaring that it is a true copy of the instrument of which it purports to be a copy, and that alterations were made constitutionally.

8. INTERPRETATION:

- a) Any matter not covered by these Rules and any question of interpretation of them, shall be decided upon by the Council.

9. DISSOLUTION:

- a) The Society shall not be dissolved nor its funds or other assets appropriated to any purpose other than those set forth in the foregoing Constitution and Rules so long as at least twenty (20) members remain clear on the membership list, or unless an affirmative vote for dissolution shall have been first obtained by postal ballot of all members with at least 65% of valid returns being in favour thereof.
- b) Should membership become less than 20, a motion for dissolution will be put by postal ballot to all members. Affirmative action shall require only a simple majority of valid returns being in favour thereof.
- c) Should any motion for dissolution be passed, winding-up of the Society and dispersal of its assets shall be in accordance with the Australian Capital Territory Companies Act (1981), or its amended equivalent, and the current Incorporation Ordinance.

This Constitution and Rules was approved by a ballot of the membership on 1 December 1986.

- Proc. Linn. Soc. New South Wales* 101: 38-52.
- Siddiqi, M.Y., Carolin, R.C. and Myerscough, P.J. (1976) Studies in the ecology of coastal heath in New South Wales. III. Regrowth of vegetation after fire. *Proc. Linn. Soc. New South Wales* 101: 53-63.
- Carolin, R.C., Jacobs, S.W.L. and Vesk, M. (1977) The ultrastructure of Kranz cells in the family Cyperaceae. *Bot. Gaz. (Chicago)* 138: 413-419.
- Carolin, R.C. (1977) The systematic relationships of *Brunonia*. *Brunonia* 1: 9-29.
- Carolin, R.C., Jacobs, S.W.L. and Vesk, M. (1978) Kranz cells and mesophyll in the Chenopodiales. *Aust. J. Bot.* 26: 683-698.
- Carolin, R.C. (1979) The genus *Calogyne* R.Br. in Australia. *Brunonia* 2: 1-17.
- Carolin, R.C. (1980a) Pattern of the seed surface of *Goodenia* and related genera. *Aust. J. Bot.* 28: 123-137.
- Carolin, R.C. (1980b) New species and new combinations in Goodeniaceae and Campanulaceae. *Telopea* 2: 63-75.
- Carolin, R.C. (1981a) Plantaginaceae. In 'Flora of Central Australia' (ed. J. Jessop) (Reed, Sydney), pp. 348-349.
- Carolin, R.C. (1981b) Campanulaceae. In 'Flora of Central Australia' (ed. J. Jessop) (Reed, Sydney), pp. 349-351.
- Carolin, R.C. (1981c) Goodeniaceae. In 'Flora of Central Australia' (ed. J. Jessop) (Reed, Sydney), pp. 351-361.
- Carolin, R.C. (1981d) Brunoniaceae. In 'Flora of Central Australia' (ed. J. Jessop) (Reed, Sydney), pp. 361-362.
- Beadle, N.C.W., Evans, O.D. and Carolin, R.C. (1982) 'Flora of the Sydney Region'. Third edn. (Reed, Sydney) (reprinted 1986, 1989).
- Carolin, R.C., Jacobs, S.W.L. and Vesk, M. (1982) The chlorenchyma of some members of the Salicornieae (Chenopodiaceae). *Aust. J. Bot.* 30: 387-392.
- Carolin, R.C. (1983a) Portulacaceae. In 'Flowering Plants of Australia' (eds B.D. Morley and H.R. Toelken) (Rigby, Adelaide), pp. 75-76.
- Carolin, R.C. (1983b) Geraniaceae. In 'Flowering Plants of Australia' (eds B.D. Morley and H.R. Toelken) (Rigby, Adelaide), pp. 210-211.
- Carolin, R.C. (1983c) Campanulaceae. In 'Flowering Plants of Australia' (eds B.D. Morley and H.R. Toelken) (Rigby, Adelaide), pp. 295-296.
- Carolin, R.C. (1983d) Lobeliaceae. In 'Flowering Plants of Australia' (eds B.D. Morley and H.R. Toelken) (Rigby, Adelaide), pp. 296-297.
- Carolin, R.C. (1983e) Sphenocleaceae. In 'Flowering Plants of Australia' (eds B.D. Morley and H.R. Toelken) (Rigby, Adelaide), p. 297.
- Carolin, R.C. (1983f) Goodeniaceae. In 'Flowering Plants of Australia' (eds B.D. Morley and H.R. Toelken) (Rigby, Adelaide), pp. 298-300.
- Carolin, R.C. (1984) Mitchell's theorem. *Aust. Syst. Bot. Soc. Newsletter* 40: 1-9.
- Weston, P.H., Carolin, R.C. and Armstrong, J.H. (1984) A cladistic analysis of *Boronia* Sm. and *Boronella* Baill. (Rutaceae). *Aust. J. Bot.* 32: 187-203.
- Rajput, M.T.M. and Carolin, R.C. (1984) Phyllotaxis and stem vascularization of *Dampiera* R.Br. (Goodeniaceae). *Proc. Linn. Soc. New South Wales* 107: 479-485.
- Carolin, R.C. (1985) Notas sobre Portulacaceae de la Argentina. *Parodiana* 3: 329-332.
- Myerscough, P.J. and Carolin, R.C. (1986) The vegetation of the Eurunderree sand mass, headlands and previous islands in the Myall Lakes area, New South Wales. *Cunninghamia* 1: 399-466.
- Carolin, R.C. (1986) Geraniaceae. In 'Flora of South Australia' Fourth edn (eds J.P. Jessop and H.R. Toelken) (Govt Printer, Adelaide), pp. 716-723.
- Cooke, D.A., Rajput, M.T.M. and Carolin, R.C. (1986) *Dampiera*. In 'Flora of South Australia' Fourth edn (eds J.P. Jessop and H.R. Toelken) (Govt Printer, Adelaide), pp. 1386-1388.
- Carolin, R.C. and Cooke, D.A. (1986) *Goodenia*. In 'Flora of South Australia' Fourth edn (eds J.P. Jessop and H.R. Toelken) (Govt Printer, Adelaide), pp. 1388-1406.
- Cooke, D.A. and Carolin, R.C. (1986) *Scaevola*. In 'Flora of South Australia' Fourth edn (eds J.P. Jessop and H.R. Toelken) (Govt Printer, Adelaide), pp. 1407-1415.
- Carolin, R.C. (1987) A review of the family Portulacaceae. *Aust. J. Bot.* 35: 383-412.
- Rajput, M.T.M. and Carolin, R.C. (1988) The genus *Dampiera* (Goodeniaceae): systematic arrangement, nomenclatural notes and new taxa. *Telopea* 3: 183-216.
- Syeda, S.T. and Carolin, R.C. (1989) Seed type

- and seed surface patterns in *Calandrinia* sens. lat. (Portulacaceae). *Proc. Linn. Soc. New South Wales* 110: 307-316.
- Carolin, R.C. (1989) Molecules and systematics. *Aust. Syst. Bot. Soc. Newsletter* 60: 11-15.
- Carolin, R.C. (in press) Portulacaceae. In 'Families and Genera of Flowering Plants' (ed.

- K. Kubitzki) (Hamburg Uni., Hamburg).
- Carolin, R.C. (in press) The genus *Scaevola* (Goodeniaceae): systematic arrangement, nomenclatural notes and new taxa. *Telopea*.
- Carolin, R.C. (in press) Nomenclatural notes and new taxa in the genus *Goodenia* (Goodeniaceae). *Telopea*. ☺

REPORTS

AUSTRALIAN BIOLOGICAL RESOURCES STUDY GRANTS 1990

The ABRs grants for 1990 have been announced. Those for flora are listed below. Grantees listed without institutions are 'unattached'.

Australian Capital Territory

Barlow, Dr B.A., CSIRO Division of Plant Industry, Revision of the genus *Melaleuca*. - \$3425.

Bruhl, Mr J.J., Unattached, Automated taxonomic revision and keys for Phyllanthaceae-Euphorbiaceae for 'Flora of Australia'. - \$30030.

Craven, Mr L.A., Australian National Herbarium, Preparation of accounts of *Homoranthus* (incl. *Rylstonea*) and eastern taxa of *Darwinia* (both Myrtaceae) for 'Flora of Australia'. - \$15000.

New South Wales

Conn, Dr B.J., Royal Botanic Gardens & National Herbarium of NSW, Taxonomic Revision of the Prostantheroideae (Lamiaceae). - \$34079.

Everett, Mrs J., Royal Botanic Gardens & National Herbarium of NSW, Revision of the genus *Craspedia* (Inuleae: Asteraceae). - \$14820.

Jacobs, Dr S.W.L., Royal Botanic Gardens & National Herbarium of NSW, Flora treatment of Nymphaeaceae. - \$13000.

Ramsay, Dr H.P., Royal Botanic Gardens & National Herbarium of NSW, Contributions to the Bryophyte volumes for the 'Flora of Australia'. - \$9235.

Ramsay, Dr H.P., Royal Botanic Gardens & National Herbarium of NSW, Revision of the bryophyte genus *Bryum* (including keys and illustrations) for Australia and its offshore

Islands. 'Flora of Australia' treatment of *Bryum*. - \$17872.

Thompson, Mrs J., Unattached, Treatment of *Swainsona* for the 'Flora of Australia'. - \$10000.

Wilson, Dr P.G., Royal Botanic Gardens & National Herbarium of NSW, Taxonomic revision of the genus *Indigofera* in Australia. - \$13500.

Northern Territory

Dunlop, Mr C.R., Conservation Commission of the Northern Territory, Revision of *Mitrasacme* (Loganiaceae) in Australia. - \$10500.

Queensland

Halford, Mr D.A., Queensland Herbarium, Revision of the tribe Hedyotideae (Rubiaceae) in Australia. - \$31602.

Henderson, Mr R.J.F., Queensland Herbarium, Taxonomic revision of Euphorbiaceae tribe Stenolobeae Benth. - \$28435

Forster, Mr P.I., University of Queensland, Revision of the genera *Cynanchum*, *Gymnema*, *Marsdenia*, *Sarcostemma*, *Secamone*, *Thozetia* and *Tylophora* (Asclepiadaceae) in Australia. - \$33800.

Jessup, Mr L.W., Queensland Herbarium, Preparation of text of Annonaceae for 'Flora of Australia'. - \$24225.

Reynolds, Miss S.T., Queensland Herbarium, Revision of the tribes Coffeeae, Vanguerieae and Psychotrieae (in part) of the family Rubiaceae in Australia. - \$20000.

Simon, Mr B.K., Queensland Herbarium, Manuscript preparation for the 'Flora of Australia' of the tribe Andropogoneae (Poaceae) with the exception of the genus *Sorghum*. - \$2000.

South Australia

Barker, Mrs R.M., Unattached, Revision of *Sida* and *Abutilon* in Australia. - \$21000.

Randell, Dr B.R., Unattached, Editing of 'Flora' manuscript. - \$29000.

Tasmania

Orchard, Dr A.E., Tasmanian Museum and Art Gallery, Revision of *Cassinia* R.Br. (Asteraceae: Inuleae). - \$10778.

Victoria

Short, Dr P.S., National Herbarium of Victoria, Biosystematic studies in *Brachyscome* Cass. (Asteraceae: Astereae). - \$30000.

Stone, Dr I.G., University of Melbourne, Revision and distribution of *Fissidens* (Musci) in Australia. - \$1600.

Western Australia

Bennett, Dr E.M., Kings Park and Botanic Garden, Prepare flora accounts of the genera *Actinodium*, *Chamelaucium*, *Darwinia* and *Pileanthus* (Myrtaceae) for the 'Flora of Australia'. - \$13000.

Maslin, Mr B.R., The Department of Conservation and Land Management, *Acacia* sect. *Juliflorae*. - \$13891.

Maslin, Mr B.R., The Department of Conservation and Land Management, 'Flora' account of *Acacia* section *Plurinerves*. - \$56669.

Overseas

Galloway, Dr D.J., British Museum (Natural History), *Pannaria* and *Parmeliella* (Lichenes) in Australia. - \$10500.

Grimes, Dr J.W., The New York Botanical Garden, A taxonomic revision of the Australian species of *Cullen*. - \$4565. ☺

Frances Quinn 741053

Rachel Kentwell 741076

Savita Meek 741076

FAX: (062) 480682

The Bureau also has several new and vacant positions currently being advertised, in both Flora and Fauna Sections, as well as those in the new Environment Resources Information Network (ERIN).

Volume 18 of the 'Flora of Australia' is mostly with AGPS and will be published in the first half of 1990.

Alex George

Acting Associate Director Flora

☺

FLORA MALESIANA WORKSHOP

After the 'Flora Malesiana' Symposium commemorating Prof. van Steenis (Leiden, August 1989), a 'Flora Malesiana' Workshop was held which lasted for two days. About 60-70 botanists remained for this (far more than the organisers anticipated). Members had been circulated beforehand with a series of themes:-

S.H. Sohmer - Organisation and the ideal format of a large (more than 10,000 species) 'Flora'.

F.P.S. Ng - The target-groups. Who are the users of a regional 'Flora' and what are 'Floras' exactly used for? How should effective feedback from users to flora-writers proceed?

R.M. Polhill - Analysis of the major causes of the consistent undertaxation of the progress of modern 'Flora' projects, in time and size. Always delay. What did the former century taxonomists do better?

A.S. George - Large 'Flora' treatments and Monographic studies; where are the boundaries? Does the system - one specialist for many floras - work well?

P.S. Ashton - Exploration expeditions in the tropics; what is no longer needed, what is still needed, what is urgently needed? A review of aims and goals.

A.H. Gentry - Herbarium taxonomy vs. field knowledge. Is there an attainable solution?

D.E. Boufford & P.F. Stevens - Resources for inventorying plant resources in the Southeast Asian tropics.

BUREAU OF FLORA AND FAUNA

Yes, the Bureau officially exists again. It is now located at the Australian National Botanic Gardens on Black Mountain, but postal address and telephone numbers remain the same. Those for the Flora Section are as follows:

Address: GPO Box 1383, Canberra, ACT 2601

Telephone: Alex George 741072

Arthur Chapman 741071

Helen Hewson 741074

Helen Thompson 741053

The members were then divided into parties of 10-12, each of which produced a series of 'resolutions' for discussion at final plenary sessions.

Without wishing to anticipate the final results which will undoubtedly become available from Leiden it can be said that there was: (1) overwhelming support for continuing '*Flora Malesiana*' but probably in a more relaxed format, (2) that every effort should be made to make Floras 'user friendly' with special emphasis on practical and alternative keys, (3) that regional workers should be encouraged and involved wherever possible, (4) that exploration and collection of inadequately known areas should be supported, (5) that field knowledge was often of great help to the herbarium taxonomist, and (6) that the production of large

floras depended not only on the contributors but particularly on the key organisational structure producing them. This latter point was highlighted by R.M. Polhill on progress of some large floras currently being produced. His graph (Fig. 1.) is relevant to the production of the '*Flora of Australia*' and I have indicated the position of the '*Flora of Australia*' on his graph. This shows progress better than the worst but by no means as good as the best. If the '*Flora*' is to be finished by 2001 we will have to do better than anyone. Alex George will have to hurtle around Australia shaking all his contributors and dispose of all delays in Canberra if we are to get anywhere near that date.

David Symon
State Herbarium of South Australia

☺

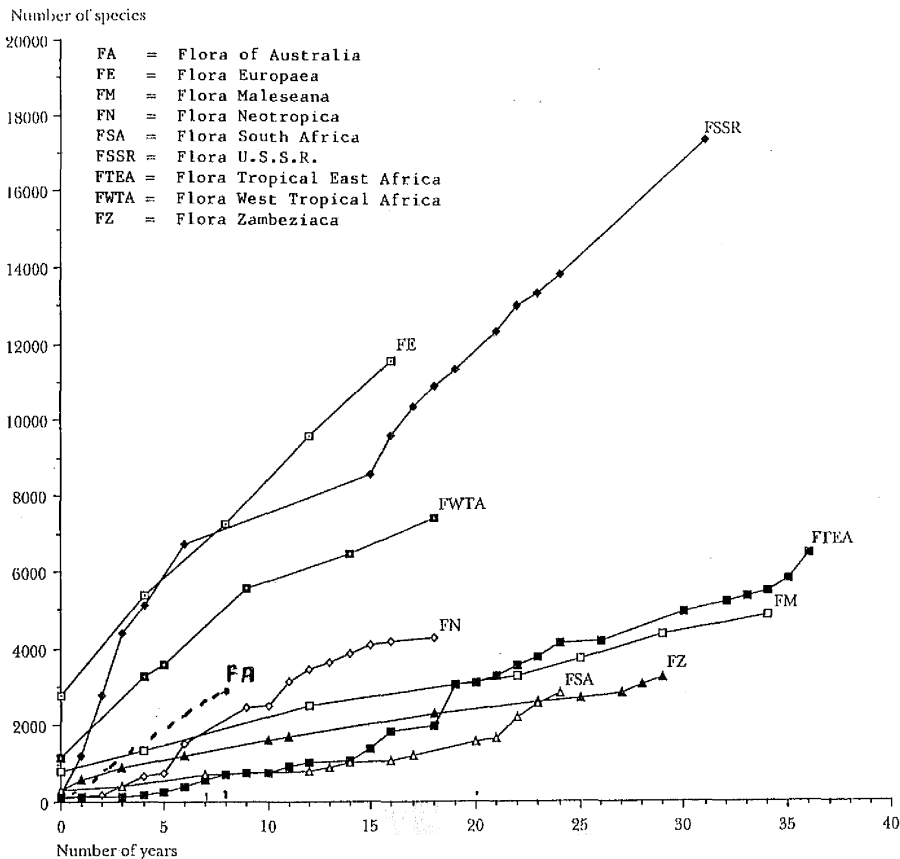


Figure 1. Progress of some large floras (adapted from R.M. Polhill).

CANBERRA CHAPTER NEWS

The Chapter has held the following meetings in the latter half of 1989:

Thursday 15 June

Alex George and Lyn Craven - 'Feather- and Star-flowers: Don't be dazzled by the glitter'. It is surprising what can be found when one quietly sits down and looks closely at a group of familiar plants, plants which are so 'well-known' that surely there can be nothing wrong with their taxonomy. Alex showed us some of the previously unknown diversity in the flowers of *Verticordia* and Lyn discussed the restoration of *Asteromyrtus* after its 130 years in the subordinate synonymy of *Melaleuca*.

Thursday 20 July

David Jones - 'Current research in Australian orchids'. It is probably fair to say that the audience was stunned at the variation to be found in some of the well-known genera of ground orchids. For such a popular group of plants, with both horticulturists and taxonomists, one wonders why there had been such little activity in earlier decades.

Thursday 24 August

Mike Crisp - 'Geographic and ontogenetic variation in *Telopea* (Proteaceae)'. Mike gave an overview of the generic relationships of *Telopea* and then discussed the variation in the waratahs and the taxonomic decisions that have been made as a result of the numerical analysis of that variation.

Thursday 21 September

Mike Lazarides - 'A review of research in Australian native sorghums'. The results of a cytological-ecological-taxonomic study on indigenous *Sorghum* species involving Brian Hacker (CSIRO Brisbane), Martin Andrew (then of CSIRO Brisbane) and Mike were presented. Some species have differentiated ecologically with accompanying cytological and morphological differentiation while others have differentiated ecologically without any apparent cytological or morphological changes.

Thursday 2 November

Bill Barker (State Herbarium, Adelaide) - 'Pincushions, Needlewoods and Nightmares: The morphological diversity of *Hakea* with some biological implications'. Bill presented a very well illustrated talk on *Hakea*, which he is studying in conjunction with Robyn Barker and Laurie Haegi. There are numerous intriguing aspects of the biology of *Hakea* species which await the attentions of evolutionary biologists and Bill nearly had some of the audience convinced that they should give up taxonomy in favour of solving some of these questions.

Thursday 23 November

(Annual) General Meeting. Lyn Craven and Kirsten Cowley had announced that they were relinquishing their positions as Convener and Secretary respectively and their replacements are Helen Hewson and Frances Quinn. Jim Croft is continuing as the Committee member.

It is unfortunate that the General Meeting was so poorly attended by the local systematic community (the numbers were so boosted by several interstate visitors who had come to Canberra on ABRIS business) as one of our most interactive monthly meetings for the year took place after it. The meeting took the loose form of a 'journal club' meeting, with several speakers each of whom spoke briefly on any published systematic contribution which they had read over the past year. The only firm condition was that items authored/coauthored by members of the local chapter were ineligible for discussion. The speakers were (listed here in alphabetical order) Lyn Craven, Mike Crisp, Hansjoerg Eichler, Helen Hewson, Brendon Lepschi and Judy West. The topics covered included matters relevant to journal editing and data presentation (such as accurate publication dates, quality of base maps used for depicting distributions, specimen citations); can papers extracted from PhD theses be taken as a fair reflection of standards of training?; botanists are **people** also and life today is much the same as that of yesteryear; is science run by ideas or politics?; phylogenies of seed plants; floras; and the (often awesome) contribution to systematics by those not in the mainstream of the discipline.

Lyn Craven

Convener Emeritus

AUSTRALIAN BOTANICAL LIAISON OFFICER

Kew Green is proving to be something of a misnomer because it changes colour according to the season, from brown when I first arrived at the end of the warm dry summer, to green as the rain became more regular, and now white, sometimes all day, as frost settles over the country. The lake in the Gardens is frozen over even though winter hasn't officially arrived as I write. Our children were delighted with the ice, and tempted, but then they saw what happened to the heavier ducks!

So far I have been able to balance my personal work with the liaison requests, of which there has been a steady flow and interesting variety. Most of the queries have been satisfactorily set out so that I could concentrate on aspects that can best be done here. However it is worth reiterating that after going as far as one can with local facilities, queries should contain relevant reference and type locations, and state clearly the problem and what is required. Possible alternative generic placements or synonymies may make all the difference between finding specimens and failing to. If examination of characters on specimens is required, it is very helpful to indicate which characters have diagnostic value. In general I would prefer full rather than terse requests, and some background explanation on the work which could help me to judge how far to go with a query and how to deal with unexpected findings. Photography of Kew types is usually in the form of A4 Cibachrome colour prints (which do not have negatives). These are quick to produce, are usually airmailed, and are usually satisfactory although sometimes clarification of characters is required. Other kinds of photography are possible, but these must be specified in the request. At other institutions, including the British Museum (Natural History), types will be photographed as colour slides.

My first trip away from London will be to Dublin at the end of January, so relevant requests should reach me by 25 January. Proposed visits to other Herbaria will be notified subsequently, but requests may be sent at any time.

Recent changes affecting Kew staff members include the promotion of Phillip Cribb to

Assistant Keeper for Monocots, following Derek Clayton's retirement. Steve Renvoize now has responsibility for the grass section. Chris Grey-Wilson is to leave the employment of Kew just before Christmas to become the editor of the Alpine Garden Society's publications.

Several Australians have visited since I arrived at Kew. Most came after the '*Flora Malesiana*' symposium to attend the Kimberley Expedition meeting mentioned by Karen Wilson in the last '*Newsletter*'. The most recent visitors were Barbara Briggs and Roger Hnatiuk, each here for one day. Currently Joy Thompson has the bay adjacent to me for her *Swainsona* work which will continue part time for the next few months.

Terry Macfarlane

Royal Botanic Gardens, Kew, Richmond
Surrey TW9 3AB ENGLAND
(Tel) 01 940 1171/4 (Fax) 01 948 1197 ☺

REVIEWS

Tropical woody Rubiaceae. Characteristic features and progressions. Contribution to a new subfamilial classification. *Opera Botanica Belgica* 1. By Elmar Robbrecht. *Nationale Plantentuin van België: Meise*. 272pp. 61 figures, 5 tables, 1988. BFr 1500.00. ISBN 90-72619-02-1, ISSN 0775-9592. Available from the *Nationale Plantentuin van België, Domein de Bouchout, B-1860, Meise, Belgium*.

This volume, the first of an occasional series, *Opera Botanica Belgica*, consolidates the recent taxonomic developments made within this predominantly woody family. Although its author states that it evolved from a seminar presented at the XIV International Botanical Congress in Berlin, it is clearly a compilation of recent significant studies on several large woody tribes (e.g. *A survey of the Gardenieae and related tribes*, Robbrecht & Puff 1986) and expansion towards the development of comparable studies on the whole family. A considerable part of the

text is devoted to discussion of characters and it includes unpublished observations and a discussion of a new subfamilial classification.

The work is divided into four chapters followed by four appendices, a bibliography and subject index. The introductory chapter briefly outlines the methodology used, the sources of materials and illustrations, and concludes with a 'Dahlgren' style, schematic diagram, indicating a proposed phylogenetic scatter of thirty-nine tribes. Although listed in the legend, five tribes are neither included in the diagram nor the following chapters, giving an impression that virtually nothing is known of their taxonomy and leaving the reader to speculate on their affinities. The second and longest chapter describes in detail the characters and states currently under examination, and brings together the primary references for these characters. Chapter three reviews the existing classifications of Schumman (1891), Verdcourt (1958) and Bremekamp (1966), and re-evaluates the eight subfamilies proposed by Bremekamp. The last chapter briefly outlines the direction of future research, and stresses the need for a more complete and comparable database, particularly at the generic level.

The appendices, which deal with the taxonomic changes over the whole family, are exceptionally useful. The first is a survey of the subfamilies and tribes of Robbrecht's classification. Diagnoses are provided for the four subfamilies and thirty-nine tribes, each with a listing of Included genera; diagnoses of the five unplaced tribes are not attempted. The second appendix provides an update of the additions and corrections to '*Index Nominum Genericorum*' for the Rubiaceae. Appendix 3 is an invaluable index, cross-referencing all taxa mentioned in the classifications of Schumman, Verdcourt, Bremekamp and Robbrecht. The volume concludes with a taxonomic index of accepted genera and synonyms (Appendix 4), an extensive bibliography and a subject index.

There is an obvious and admitted bias towards African members of the family. This is not solely due to the history of research at Meise (and Kew), but also to the lack of comparable studies in the tropics of Asia, the Pacific and the New World. Missing are the invaluable surveys of character states of the genera found, for example, in Robbrecht and Puff (1986), but as this information does not exist for the majority of

tribes, they may have been omitted here for consistency. Apart from the inevitable changes in the generic membership of the tribes and minor rearrangement of tribal affinities, Robbrecht's new classification in effect refines the boundary of the Ixoroideae, redefines the 'Guettardoideae' (now the much larger Antirheoideae) and essentially maintains Bremekamp's Cinchonoideae and Rubioideae. The main criticism of the volume is not in its science, but rather its layout. The illustrations, although excellent in detail, are larger than necessary, and throughout the book about a third of each page is unused (perhaps reserved for notes?).

In a single volume Robbrecht has succeeded in bringing together a discussion of the characters currently emphasised as taxonomically useful, a survey of the classification, and the new subfamilial concepts that evolve from recent advances in knowledge in the family. The '*Tropical Woody Rubiaceae*' will no doubt find a central place on the bookshelves of those willing to venture into a family once described by Prof Roger Carolin as having 'more problems than trees'.

C.F. Puttock

School of Biological Science, University of New South Wales

©

NOTICES

REQUEST FOR INFORMATION

We intend to review the reproductive biology of the Orchidaceae. To make this review as comprehensive as possible, we are requesting unpublished or soon-to-be published data sets on breeding systems in orchids. The information will be used to make phylogenetic, biogeographic, and growth habit comparisons among species. We are particularly interested in natural levels of fruit set (% of flowers producing fruits) and, where available, results of hand pollinations. Also, any data on seed set (% of seeds bearing embryos) would be useful. To show natural variation in the data, we would appreciate that they be broken down by site and year where appropriate. If the information is

already in manuscript form, authors may send manuscripts, indicating to which journal the article has been or will be submitted. Direct information to:

Jess K. Zimmerman
Smithsonian Environmental Research Center
PO Box 28
Edgewater, MD 21037 USA.

Your help will be greatly appreciated and acknowledged.

Jess K. Zimmerman
Ricardo N. Calvo
James D. Ackerman

☺

17TH PACIFIC SCIENCE CONGRESS

At Honolulu, in May 1991 there will be the 17th Pacific Science Congress. An historical symposium is planned, with emphasis on the various ways in which Pacific island and rim cultures have been influenced by the introduction of science and technology. Contact Professor Philip F. Rehbock, History Department, University of Hawaii, 2530 Dole Street, Honolulu, Hawaii 96822 USA. ☺

SCIENCE OF THE PACIFIC ISLAND PEOPLES

In December 1990 there is to be a conference on 'Science of the Pacific Island Peoples' at the University of the South Pacific, Suva. Contact Professor John Morrison, School of Pure and Applied Sciences, University of the South Pacific, Suva, Fiji. ☺

INTERNATIONAL UNION OF THE HISTORY AND PHILOSOPHY OF SCIENCE

Division of History of Science Commission on Bibliography

I have been asked by Professor Renato Mazzolini, Chairman of the International Union's Commission on Bibliography, to assist the

Commission to compile a report on work in progress (or recently completed) in Australia in the following areas:

- Bibliographical tools in the history of science
- Critical editions of medical and scientific texts
- Catalogues or lists of scientific manuscripts
- Translations of older scientific or medical texts
- Editions of scientific correspondence

If you are engaged in any of these activities, please complete the form below and return it to me. Your assistance in this matter will be greatly appreciated.

R.W. Home

Department of History & Philosophy of Science
University of Melbourne
Parkville VIC 3052

☺

DIVISION OF HISTORY OF SCIENCE: COMMISSION ON BIBLIOGRAPHY

One project per form please

A Title of project:.....

B Name of project leader,
followed by names of
collaborators:.....

C Brief description of project:.....

D Full titles of published
works relating to the
project:.....

E Other relevant information:.....

F Address of project/project
leader:.....

INDEX TO AUSTRALIAN SYSTEMATIC BOTANY SOCIETY NEWSLETTER NUMBERS 58-61, 1989

- Albrecht, David and Whiffin, Trevor: Melbourne Chapter Program for 1989, 59: 10
- A Method for Recording UV Reflectance Patterns in Flowers Using Monochromatic Film, by B.R. Randell and B.C. Rowland, 59: 2
- Anderson, Robert: *Narcissus* Naturalised in South Australia and Victoria, 61: 3
- ASBS Business
- ASBS Meeting 1990 : *Indo-Pacific Biogeography: At the crossroads*, by M.J. Henwood & J.G. West, 61: 6
- '*Flora of Central Australia*', by Barbara Briggs, 58: 21
- Important Notice for Unfinancial Members, 60: 37
- Minutes of the 12th General Meeting, 60: 30
- Proposal for an ASBS Systematic Botany Research Fund, by Helen Hewson and Judy West, 59: 6
- Reminder : 12th General Meeting, 28 June 1989, by Barry Conn, 58: 20, 59: 5
- Subscription Rates for 1990, 60: 37
- Subscriptions to ASBS for 1989, by Don Foreman, 58: 20, 59: 6
- Subscriptions for 1990, 61: 6
- Treasurer's Reports, 60: 35
- ASBS Constitution, 61: Insert
- ASBS Publications, 60: 48, 61: 24
- ASBS Symposium and Forum, 1989
- Gondwanan Elements in the Australian Flora: Abstracts, 60: 19
- Introduction, 60: 1
- Molecules and Systematics, by Roger Carolin, 60: 11
- Nancy Burbidge Memorial Lecture: Origins, Radiations and Sifting in the Australasian Biota - Changing Concepts from New Data and Old, by Richard Schodde, 60: 2
- Plant Systematics in the Age of Molecular Biology, 60: 11
- Synthesis and Prospect, by Bryan Barlow, 60: 16
- Australian Biological Resources Study Grants 1990, 61: 14
- Barlow, Bryan: Synthesis and Prospect, 60: 16
- Baas, Pieter: My First Revision Gave Me So Much Satisfaction, 61: 1
- Briggs, Barbara: '*Flora of Central Australia*', 58: 21
- Canning, Estelle: Retirement: Arthur Court, 59: 8
- Carolin, Roger: Australian Flora Foundation: Research Grants 1990 and Offer of Living Material for Research, 60: 47
- Carolin, Roger: Molecules and Systematics, 60: 11
- Carr, D.J.: Obituary: Stella Grace Maisie Carr (1912-1988), 58: 21
- Conn, Barry J.: Publication Dates of Australian Systematic Botany, 60: 46
- Conn, Barry J.: Reminder : 12th General Meeting, 28 June 1989, 58: 20, 59: 5
- Conran, J.G. and Hwang, Y.H.: Fast PCOA Projections with PATN and Laser Printer, 60: 28
- Continental Drip - A Theory of the Shape of Continents, by David Morrison, 58: 15
- Craven, Lyn: APINMAP: Asian Pacific Information Network on Medicinal and Aromatic Plants, 60: 43
- Craven, Lyn: Canberra Chapter News, 59: 10, 61: 17
- Crisp, Michael and Morrison, David: An Hennigian Analysis of the Eukaryotae, 60: 24
- Curtis, David: International Geosphere-Biosphere Program, 61: 4
- Fagg, Murray: Retirement: Dr Robert Boden, 59: 7
- Foreman, Don: CSIRO Australian Journals of Scientific Research: Prices for 1990, 60: 46
- Foreman, Don: Subscriptions to ASBS for 1989, 58: 20, 59: 6
- Forster, P.I.: Recent Moss Collections at the Queensland Herbarium, 59: 17

- George, Alex: ABRS Report, 58: 28, 59: 9
 George, Alex: Spelling Possessive Place Names, 58: 29
 Gondwanan Elements in the Australian Flora: Abstracts, 60: 19
 Green, Peter: Letter to the Editors, 59: 18
- Henwood, M.J. & West, J.G.: ASBS Meeting 1990 : *Indo-Pacific Biogeography: At the crossroads*, 61: 6
 Hewson, Helen: ABRS Report, 60: 39
 Hewson, Helen: Australia Day Council Medal, 58: 28
 Hewson, Helen and West, Judy: Proposal for an ASBS Systematic Botany Research Fund, 59: 6
 Hnatiuk, Roger: Request for Material, 58: 32
 Hwang, Y.H. and Conran, J.G.: Fast PCOA Projections with PATN and Laser Printer, 60: 28
 Hwang, Y.H.: The Casuarinaceae : The closest Taxon to the Family, 61: 2
- Index Nominum Genericorum* Cards: Don't throw them out, by Karen Wilson, 58: 19
 International Geosphere-Biosphere Program, by David Curtis, 61: 4
- Jessop, J.P. and Womersley, H.B.S.: ADU Algal Herbarium Transferred to AD, 59: 15
- Keighery, Greg: 'Tazetta' *Narcissus* naturalised in Western Australia, 58: 13
- Letter to the Editors, by Peter Green, 59: 18
- Macfarlane, Terry: Australian Botanical Liaison Officer, 61: 18
 Marchant, Neville: SEABOP: A New Network of South East Asian Taxonomists, 60: 44
 Maslin, Bruce: Wattle become of *Acacia*? 58: 1
 McGillivray, Don: Back Issues of Serials, 59: 18
 Morrison, David and Crisp, Michael: An Hennigian Analysis of the Eukaryotae, 60: 24
 Morrison, David: Continental Drip - A Theory of the Shape of Continents, 58: 15
 Morrison, David: Roger Carolin - A Short Biography and Appreciation on his Retirement, 61: 7
 My First Revision Gave Me So Much Satisfaction, by Pieter Baas, 61: 1
- Nancy Burbidge Memorial Lecture: Origins, Radiations and Sifting in the Australasian Biota - Changing Concepts from New Data and Old, by Richard Schodde, 60: 2
Narcissus Naturalised in South Australia and Victoria, by Robert Anderson, 61: 3
- Notices
 ADU Algal Herbarium Transferred to AD, 59: 15
 APINMAP: Asian Pacific Information Network on Medicinal and Aromatic Plants, 60: 43
 A Bibliography of Recent Literature on Banksia, 60: 46
 Australasian Plant Pathology Society Conference, 1989, 58: 32
 Australian Flora Foundation: Research Grants 1990 and Offer of Living Material for Research, 60: 47
 Back Issues of Serials, 59: 18
 Back Issues of the Proceedings of the Linnean Society of New South Wales, 60: 45
 CSIRO Australian Journals of Scientific Research: Prices for 1990., 60: 46
 International Union of the History and Philosophy of Science, 61: 20
 Pacific Science Congress, 61: 20
 Publication Dates of Australian Systematic Botany, 60: 46
 Recent Moss Collections at the Queensland Herbarium, 59: 17
 Request for Information, 61: 19
 Requests for Material, 58: 32
Science of the Pacific Island Peoples, 61: 20
 SEABOP: A New Network of South East Asian Taxonomists, 60: 44
- Obituary
 Stella Grace Maisie Carr (1912-1988), 58: 21
- Pachystoma pubescens* Blume (Orchidaceae) rediscovered in the Northern Territory, by Glenn M. Wightman, 61: 5
 Pedley, L.: *Racosperma* Again, 59: 1
 Plant Systematics in the Age of Molecular Biology, 60: 11
- Racosperma* Again, by L. Pedley, 59: 1
 Randell, B.R. and Rowland, B.C.: A Method for Recording UV Reflectance Patterns in Flowers Using Monochromatic Film, 59: 2

Reports

- ABRS, 58: 28, 59: 9, 60: 39
 Australia Day Council Medal, 58: 28
 Australian Biological Resources Study Grants 1990, 61: 14
 Australian Botanical Liaison Officer, 58: 29, 60: 40, 61: 18
 Bureau of Flora and Fauna, 61: 15
 Canberra Chapter News, 59: 10, 61: 17
Flora Malesiana Workshop, 61: 15
 Melbourne Chapter Program for 1989, 59: 10
 News from the National Herbarium of Victoria (MEL), 60: 38
 Planned ABLO Visits to other Herbaria, 58: 30
 Spelling Possessive Place Names, 58: 28

Retirements

- Arthur Court, 59: 8
 Dr Robert Boden, 58: 28, 59: 7
 Roger Carolin - a Short Biography and Appreciation on his Retirement, 61: 7

Reviews:

- '*Eucalyptus*, *Angophora* (Myrtaceae). Flora of Australia', by G.M. Chippendale, 59: 13
 'Ferdinand Bauer. The Australian Natural History Drawings', by Marlene J. Norst, 59: 11
 'FLORA. The Art of Botany' an Exhibition, 60: 41
 'How to Know Western Australian Wildflowers' Part 1, by W.E. Blackall and B.J. Grieve, 59: 14
 'It's Blue with Five Petals. Wildflowers of the Adelaide Region', by A. Prescott, 58: 31
 'Pioneer, Priest and Botanist - Benedetto Scortechini', by Patrick J. Tynan, 60: 42
 'Plants of the Arid Shrubland of Western Australia', by A.A. Mitchell and D.G. Wilcox, 60: 42
 'The Contented Botanist', by Sophie C. Ducker, 58: 31
 'Tropical Woody Rubiaceae. Characteristic Features and Progressions. Contribution to a New Subfamilial Classification', by Elmar Robbrecht, 61: 18

Ross, J.H.: News from the National Herbarium of Victoria (MEL), 60: 38

Rowland, B.C. and Randell, B.R.: A Method for Recording UV Reflectance Patterns in Flowers Using Monochromatic Film, 59: 2

Schodde, Richard: Nancy Burbidge Memorial Lecture: Origins, Radiations and Sifting in the Australasian Biota - Changing Concepts from New Data and Old, 60: 2

Sebastian Schauer, an Overlooked Botanist, by Joy Thompson, 58: 19

Symon, D.E.: *Flora Malesiana* Workshop, 61: 15

Symon, D.E.: Three Cheers for Ru Hoogland in Paris, 61: 6

'Tazetta' *Narcissus* naturalised in Western Australia, by Greg Keighery, 58: 13

Telford, Ian: New Record for the Problematic Genus *Lepturopetalum* (Poaceae), 59: 5

Telford, Ian: Rediscovery of *Muellerargia timorensis* (Cucurbitaceae), 59: 4

The Casuarinaceae: The Closest Taxon to the Family, by Yee H. Hwang, 61: 2

The Editor's Passport, 59: 8

The Rouleau Card Index to Specific Epithets, by Karen Wilson, 58: 18

Thompson, Joy: Sebastian Schauer, an Overlooked Botanist, 58: 19

Three Cheers for Ru Hoogland in Paris, by D.E. Symon, 61: 6

Walsh, Neville: Request for Material, 58: 32

Wattle become of *Acacia*? by Bruce Maslin, 58: 1

West, J.G. & Henwood, M.J.: ASBS Meeting 1990: *Indo-Pacific Biogeography: At the crossroads*, 61: 6

West, Judy and Hewson, Helen: Proposal for an ASBS Systematic Botany Research Fund, 59: 6

Wightman, Glenn: A Simple Plant Press, 60: 27

Wightman, Glenn M.: *Pachystoma pubescens* Blume (Orchidaceae) rediscovered in the Northern Territory, 61: 5

Wilson, Karen: Australian Botanical Liaison Officer, 58: 29, 60: 40

Wilson, Karen: *Index Nominum Genericorum* Cards: Don't throw them out, 58: 19

Wilson, Karen: Planned ABLO Visits to other Herbaria, 58: 30

Wilson, Karen: The Rouleau Card Index to Specific Epithets, 58: 18

Whiffin, Trevor, and Albrecht, David: Melbourne Chapter Program for 1989, 59: 10

Womersley, H.B.S. and Jessop, J.P.: ADU Algal Herbarium Transferred to AD, 59: 15 ☺

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY PUBLICATIONS

EVOLUTION OF THE FLORA AND FAUNA OF ARID AUSTRALIA

Edited by W.R. Barker & P.M. Greenslade. ASBS & ANZAAS, 1982. Price \$20.

This collection of more than 40 papers will interest all concerned with Australia's dry inland or the evolutionary history of its flora and fauna. It is of value to those studying arid lands and evolution in general. Six sections cover: ecological and historical background; ecological and reproductive adaptations in plants; vertebrate animals; invertebrate animals; individual plant groups; concluding remarks.

FLORA AND FAUNA OF ALPINE AUSTRALASIA: AGES AND ORIGINS

Edited by Bryan A. Barlow. ASBS & CSIRO, 1986. Price \$21.

The alpine environments of Australia, New Guinea and New Zealand differ from each other in terms of topography, genesis, climate and biota. They also contrast strongly with alpine habitats in the northern hemisphere. Paleoclimatology, paleobotany, biogeography, ecology and plant and animal systematics have been used here to give an understanding of the biohistorical relationships of these isolated islands of alpine terrain in the southern hemisphere.

SYSTEMATIC STATUS OF LARGE FLOWERING PLANT GENERA

ASBS Newsletter no. 53, edited by Helen Hewson. December 1987. Price \$5.

This *Newsletter* issue includes the Reports from the February 1986 Boden Conference on *The Systematic Status of Large Flowering Plant Genera*. Reports cover the genus concept; the role of cladistics in generic delimitation; geographic range and the genus concept; the value of chemical characters, pollination syndromes, and breeding systems as generic determinants; generic concepts in various taxa: Asteraceae, Chenopodiaceae, Epacridaceae, *Cassia*, *Acacia* and the eucalypts.

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY NEWSLETTER

Back issues of the *Newsletter* are available from number 26 (March 1981) onwards, excluding nos 29 and 31. Here is the chance to complete your set. Cover prices are \$3.50 (nos 26-59, excluding 53) and \$5.00 (nos 53 and 60 onwards).

ORDER FORM

To: Helen Thompson
ASBS Book Sales
Australian National Botanic Gardens
GPO Box 1777
Canberra, ACT 2601, AUSTRALIA

Please send me copies of

1) **Evolution of the Flora and Fauna of Arid Australia**

at \$20 per copy plus \$5.00 each postage.

Please send me copies of

2) **Flora and Fauna of Alpine Australasia**

at \$21 per copy plus \$5.00 each postage.

Please send me copies of

3) **ASBS Newsletter:**

Nos. (26-59 excl. 29, 31, 53)
at \$3.50 per copy plus \$1.10 each postage.

Nos. (53 and 60 onwards)
at \$5 per copy plus \$1.10 each postage.

Cheque for \$..... enclosed, payable to
Australian Systematic Botany Society Inc.

NAME

ADDRESS

.....

.....

..... P/CODE

*Overseas orders: please enquire in advance
about postage rates.*

The Society

The Society is an incorporated association of over 300 people with professional or amateur interest in Botany. The aim of the Society is to promote the study of plant systematics.

Membership

Membership is open to all those interested in plant systematics and entitles the member to attend general and chapter meetings and to receive the '*Newsletter*'. Any person may become a member by forwarding the annual subscription to the Treasurer. Subscriptions become due on the 1st January.

The Newsletter

The '*Newsletter*' appears quarterly and keeps members informed of Society events and news, and provides a vehicle for debate and discussion. In addition original articles, notes and letters (not exceeding ten pages in length) will be considered. Contributions should be sent to the Editor at the address given below, preferably as an unformatted word-processor or ASCII file on an MS-DOS or Macintosh diskette accompanied by a printed copy, or as two typed copies with double-spacing. All items incorporated in the '*Newsletter*' will be duly acknowledged. Authors alone are responsible for the views expressed.

Notes

The deadline for contributions is the last day of February, May, August and November.

ASBS Annual Membership is \$20 (Aust); students (full-time) \$12. Please make your cheque out to *ASBS Inc* and remit to the Treasurer.

Advertising space is available for products or services of interest to ASBS members. Current rate is \$100 per full page, \$50 per half page or less. Contact the '*Newsletter*' Editor for further information.

All address changes should be sent to the Treasurer.

Editor

Mrs B. Barnsley
Tel (062) 86 1805

Associate Editor

Dr M.D. Crisp
Tel (062) 67 1821

Australian National
Botanic Gardens
GPO Box 1777
CANBERRA ACT 2601

Fax (062) 48 0682

Cover

Don Fortescue

Typing

Sara York

CONTENTS

Articles

My First Revision Gave Me So Much Satisfaction by Pieter Baas	1
The Casuarinaceae : The Closest Taxon to the Family by Yee H. Hwang.....	2
<i>Narcissus</i> Naturalised in South Australia and Victoria by Robert Anderson	3
International Geosphere-Biosphere Program by David Curtis.....	4
<i>Pachystoma pubescens</i> Blume (Orchidaceae) Rediscovered in the Northern Territory by Glenn M. Wightman.....	5
Three Cheers for Ru Hoogland in Paris by D.E. Symon.....	6

ASBS Business

Subscriptions for 1990	6
ASBS Meeting 1990 : Indo-Pacific Biogeography: At the Crossroads	6

Personal News

Roger Carolin - A Short Biography and Appreciation on his Retirement	7
--	---

Reports

Australian Biological Resources Study Grants 1990.....	14
Bureau of Flora and Fauna	15
<i>Flora Malesiana</i> Workshop.....	15
Canberra Chapter News	17
Australian Botanical Liaison Officer	18

Reviews	18
---------------	----

Notices

Request for Information	19
17th Pacific Science Congress	20
<i>Science of the Pacific Island Peoples</i>	20
International Union of the History and Philosophy of Science	20
Index to 'ASBS Newsletters' Number 58-61, 1989	21
Australian Systematic Botany Society Publications	24
ASBS Constitution	Insert